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ABSTRACT

The purpose of this paper is to introduce a model of the psychological processes that take place when a persuader decides to use or not to use a given persuasive message. The assumption is made that if the perceived emotional impact of a message is more positive than an ethical threshold (which varies from person to person), the persuader will use that message, and that if the perceived impact is less positive than the ethical threshold, the persuader will reject the message. This model is mathematized, and the resulting mathematical model is tested against data gathered by G. Marwell and D.R. Schmitt (1967) and by G. Miller, F. Boster, M. Roloff, and D. Siebold (1977). It is shown that these tests strongly support the empathy model. Tables are provided that present information about the compliance-gaining strategies defined in the prior two studies. (Author/GT)

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AN EMPATHY MODEL OF COMPLIANCE -
GAINING MESSAGE STRATEGY SELECTION*

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Abstract

In this paper data from Marwell and Schmitt's (1967) compliance-gaining message experiment and Miller, Boster, Roloff, and Seibold's (1977) compliance-gaining message experiment are reanalyzed. The results of this reanalysis shows that the conclusions reached by both Marwell and Schmitt and Miller et al, are unwarranted. A mathematical model of persons' compliance-gaining message selection is developed, and the data from the Marwell and Schmitt and Miller et al, studies are shown to fit the model.

Advances in technology and the degree of interdependence among persons makes the consequences of resolving conflicts and regulating human affairs by the traditional method of armed conflict or the coercion of rigid traditions passed on with the weight of many generations, undesirable. Instead, nearly all social control is a matter of verbal messages. Much of the regulation of behavior consists of the formally written role structure of organizations such as governments, churches, or General Motors. Another considerable portion is found in informal role structures such as marriage and friendship. However, a considerable amount of social regulation is still the dyadic persuasion context in which the persuader generates utterances which are aimed at getting the listener to do what the persuader wants (or to cease from doing what the persuader dislikes).

Even the briefest study of such situations reveals that in any given situation there are a virtual infinity of messages which the persuader might use. Thus, a scientific study which focuses on the particular message is virtually impossible. Is it possible to find a classification scheme for messages which would render persuasion a matter of a small and manageable set of message categories? Several such schemes have been offered. One of the most famous is implied in Kelman's (1961) work on processes of social influence. Kelman divides messages into three categories: (1) messages focused on the power of the persuader, (2) messages focused on the attractiveness of the persuader, and (3) messages focused on the credibility of the persuader. French (1956) and French and Raven (1968) offer a more extensive set of categories. They divide Kelman's power dimension into two categories: reward power and coercive power. They retain the attractiveness dimension, but rename it power. They retain the expertise dimension of credibility, and they develop the somewhat novel notion of legitimate power. Numerous authors have created

similar schemes (e.g., Parsons, 1963, Etzioni, 1961; Festinger, 1953); however, the most detailed category system was created by Marwell and Schmitt (1967). They develop 16 categories which they term "strategies." The 16 strategies which they generated are presented in Table 1.

Table 1 about here

Each of the previously mentioned authors has tackled the problem of compliance-gaining message selection by analyzing the content of persuasive messages. In the present monograph a very different approach is taken. The purpose of this paper is to introduce a model of the psychological processes which take place when the persuader decided to use or not to use a given persuasive message. The model assumes that the persuader evaluates each message by forecasting the probable emotional impact of the message on the listener (i.e., will the listener be pleased or hurt or enraged by the persuasive message in question?). If the perceived emotional impact of the message is more positive than an ethical threshold (which varies from person to person), then the persuader will use that message. If the perceived impact of the message is less positive than the ethical threshold, then the persuader will reject that message. This substantive model is mathematized and the resulting mathematical model is tested against data gathered by Marwell and Schmitt (1967) and by Miller, Boster, Roloff, and Seibold (1977). These tests strongly support this empathy model.

The Marwell and Schmitt Study

As proof of the generality of their strategies, Marwell and Schmitt constructed a questionnaire to ask people about their compliance-gaining behavior. The questionnaire posed four hypothetical situations. For each situation, Marwell and Schmitt

generated 16 specific messages, one for each of the compliance-gaining strategies which they defined. All told, the respondent was asked to evaluate 64 messages as to whether he would or would not use a given message in order to persuade a listener in some given context. An example of such a message would be a father trying to persuade his son to do homework by saying, "If you study hard now, you will be able to do well in college and get a really exciting job when you're older." This particular message would represent the strategy "positive expertise," stressing the positive consequences for the persuadee which follow when he complies.

Marwell and Schmitt (1967) present no detailed logical analysis of their categories and there appear to be at least minor problems of this sort. For example, if a father seeks to improve his son's homework by using "positive" esteem, he might say, "Your friends would be proud of you if you did well in math." But this message might also be listed under "positive expertise." Certainly there is a fertile area of future research in clarifying the Marwell and Schmitt category scheme so that the strategies are truly exclusive.

On the other hand the generative power of the Marwell and Schmitt category scheme is unquestioned. Three subsequent studies have used their scheme to create new compliance-gaining questionnaires (Miller et al., 1977; Kaminski et al., 1977; Hunter and Hunter, 1977). In all, the scheme was applied to 11 situations not used by Marwell and Schmitt, and suitable messages were always found for each strategy in each situation. Thus there is reason to believe that the 16 strategies defined by Marwell and Schmitt can be applied to numerous persuasion contexts.

Marwell and Schmitt (1967) administered their questionnaire to 608 undergraduates and performed a factor analysis on the resulting data. They summed the four responses for each strategy (i.e., responses to the four messages for that strategy; one in each of the four situations) and correlated the resulting 16 scores. They

offered an interpretation for a five factor solution with oblique factors and noted a second order factor analytic solution with two factors (the positive messages versus the negative messages). However this analysis was flawed by a basic misinterpretation of the meaning of the factor analysis. They did not interpret the factors as dimensions of individual differences in persuader behavior, but as dimensions for categorizing the strategies into higher order or more abstract super categories. They offered a highly qualified and diffident attempt to relate this factor analytically generated set of super categories to the five category system of French and Raven (1968) but even they found the actual identification very forced. They further confuse their interpretation by arguing that there are no significant individual differences in compliance-gaining behavior and that the small degree of apparent differences were largely a matter of "halo" or "use of scale" problems (with no definition of either term). This argument is logically contradictory to their acceptance of the dimensions of the factor analysis which can only be dimensions of the alleged non-existent individual differences.

The error made by Marwell and Schmitt is a subtle but important one. Their analysis is not an analysis of compliance-gaining behavior, but rather a logical and semantic analysis of compliance-gaining messages. There are undoubtedly schemes which constitute a set of super categories for the Marwell and Schmitt strategies. However, the test of such an assertion would not be found in the study of compliance-gaining behavior, but in the logical and semantic analysis of messages. For example, does each message that can be generated within the strategy "promise" have substantive content which logically falls under the rules used by French and Raven (1968) to define their category "rewarding activity?" If so, then the strategy is indeed a subordinate category to the French and Raven category. This is a logical and not an empirical question.

What of the five factors found by Marwell and Schmitt (1967)? Are there five dimensions which determine which persuaders will use which strategies? If so, then there must be at least $2^5 + 32$ qualitatively different patterns of selecting and rejecting messages for use in persuasion, i.e., at least 32 different types of persuaders. This of course would contradict the work of Marwell and Schmitt and many other writers who have asserted the universalistic character of compliance-gaining strategy selection. Many previous writers have assumed that all persuaders are willing to use all strategies, but will use different strategies in different situations (see for example, the discussion of Miller et al., 1977). The analysis to follow will show the five factor solution in the Marwell and Schmitt data to be an artifact of nonlinear relations between the strategy scores. A re-analysis of the Marwell and Schmitt data shows that the data fit a unidimensional model in which persuaders base their acceptance or rejection of messages on what they perceive to be the emotional impact of that message on the listener. That is, the five factors of the Marwell and Schmitt analysis are actually five nonlinearly different versions of the same variable.

However, as an offshoot of the new analysis, this study will offer evidence that the Marwell and Schmitt strategies are relevant to compliance-gaining behavior. Except for certain strategies (i.e., promise, threat, and altruism), the messages within a given strategy tend to be very similar in terms of frequency of usage. In particular, almost all positive messages would have frequencies greater than nearly all negative messages. To state it technically: the differences in mean usage of messages from different strategies is large relative to the differences in mean usage of messages from within the same category.

Situational Determinants of Behavior: the Miller et al. study

Marwell and Schmitt (1967) suggest that strategy usage will vary from one situation to the next. Miller et al, (1977) sought to test this hypothesis by

relating strategy use to two classic dimensions of interpersonal interaction. The interpersonal-noninterpersonal dimension essentially contrasts persuasive behavior between intimates and strangers. The long-term-short-term dimension contrasts persuasive behavior in transient situations with persuasive behavior between people who will be in contact over a long period of time. For example, one might hypothesize that persuaders would be least likely to use negative strategies with intimates since such strategies might destroy future aspects of the relationship, or one might hypothesize that persuaders would be less likely to use negative strategies in long-term relationships where the persuader is subject to retaliation.

Miller et al. (1977) claim to have found considerable support for situational determinants of compliance-gaining behavior, but that evidence was odd, equivocal. No general hypothesis such as those stated in the previous paragraph was supported. Within each strategy there were statistically significant differences in message of messages generated for different situations. However the direction and degree of such differences was not consistent from strategy to strategy. In a future paper we will argue that the differences in mean usage found in their data are better explained by variation in the emotional impact of different messages of the same strategy. We will argue that the evidence Miller et al. cite for the situational determinants results from the research design used by both Marwell and Schmitt and by Miller et al. in which different messages were written for different situations, i.e., a research design in which message variation within strategies is confounded with variation due to situational determinants.

More pertinent to this paper, however, Miller et al. performed a factor analysis of their 64 messages. This analysis yielded eight factors, which would imply at least 2^8 -256 qualitatively different types or persuaders. This paper will argue that this finding is in part an artifact of small sample size (168 respondents as

opposed to Marwell and Schmitt's 608), but largely a function of nonlinear relations between strategy scores. A reanalysis of the Miller et al, data shows strong support for the unidimensional empathy model proposed here.

An Empathy Model of Compliance-Gaining Message Selection

Attempts to persuade others produce emotional reactions in them. These reactions lead others to react in ways which have consequences for the persuader. For example, the listener may quietly conform, react violently, feel flattered, feel resentment, etc. These responses lead to either immediate or delayed reactions to the persuader. Suppose that my bridge partner and I have a disagreement concerning whether to use Blackwood's slam convention or a club convention. My partner might conclude that I was correct in choosing the club convention and resume play feeling fortunate to have partnered with a budding genius. Or, he might become incensed and refuse to play further with me. Or he might go along with me at the moment while harboring resentment which is later manifested by putting me into "unmakable" contracts. In all cases, there is an immediate emotional response in the listener and a subsequent reaction toward the persuader.

The fact that there is a subsequent consequence for the persuader means that the most theorists would predict that the persuader would be sensitive to the emotional reaction of the listener. Most major communication theorists would predict that the selection of the compliance-gaining message would depend in part on the perceived (i.e., predicted) emotional response in the listener. The model to be presented here assumes that compliance-gaining message selection is based entirely on this perceptual process. The excellent fit of data to the model is thus interpreted as implying that other casual factors are either perfectly correlated with the impact perception process or are small in magnitude.

Assume that all compliance-gaining messages can be scaled on a dimension which is the emotional impact that that message would have on a listener, i.e., assume

that all messages can be scaled in terms of whether they are received positively or negatively. If a persuader is choosing between two messages, then assume that he will always try the message with the more positive (or less negative) value on the emotional impact scale first. The word "impact" will always be used for the dimension defined here, i.e., perceived affective response to the message, and will be denoted A.

Further assume that all persuaders see the same positive to negative rank order among the messages. It follows that for any given person, there will be a value which divides the affective impact dimension into those messages which are acceptable to the persuader. This value is an ethical threshold for the persuader which measures how far down the scale (in a negative direction) the persuader is willing to go in order to achieve the persuadee's compliance. The ethical threshold for a given person will be denoted by the letter T.

Consider a person responding to a compliance-gaining message questionnaire. Let U_{pi} be a Bernoulli variable which is 1 if person p would use message i and 0 if p would not use i. How does usage U_{pi} relate to impact value A_i and threshold value T_p ?

$$U_{pi} = \begin{cases} 1 & \text{if } A_i \geq T \\ 0 & \text{if } A_i < T \end{cases}$$

Note in particular that usage is negatively correlated with ethical threshold; the higher the value of T_p , the more likely it is that U_{pi} will be 0. If one counts across messages to get a total usage score U_p , then persons with a high usage score accept almost all messages and thus have a very low ethical threshold, while persons with a low usage score reject nearly all messages and thus have a very high threshold. That is, the natural way of scoring the compliance-gaining instrument (i.e., usage) is a reverse scoring in relation to the natural way of mathematizing the threshold model of message selection.

The preceding model is a very severe model in that it requires binary usage data to conform to the assumptions of a Guttman scale. These start conditions are not realized in the data. Why are the data not perfect as implied by the model laid out above? One possibility is to assume that the perceptual process is not perfect. In evaluating the impact of a given message, there are at least two factors which might confuse the persuader's momentary assessment: ambiguity and uncertainty. Any compliance-gaining message is usually a short utterance and contains words that can be interpreted in either moderate or in extreme ways. In order to decide upon usage, the persuader must assume some particular interpretation of the message and must therefore pick only one of the possible values that the message might take on. That is, the impact value used in a particular decision will vary at random from some central value to the extent that the message is ambiguous.

Another random element in the decision process is uncertainty concerning the listener. Different people or people at different times will react to a given message in different ways. However, the decision process requires the persuader to imagine a particular listener in order to make a definite response. Thus the decision made will be that for only one of many possible potential listeners. As a result, perceived impact will vary randomly from some central value to the extent of uncertainty about the listener's characteristics.

Since the resolution of ambiguity and uncertainty in a particular decision are assumed to be momentary random cognitive processes, this means that a more realistic model of message selection should assume a random deviation in the perceived impact. Let us then use the symbol A_i for the central or typical perceived impact, and denote by e_{pi} the random deviation in the persuader's perception which is determined by ambiguity and uncertainty. Our model then becomes,

$$U_{pi} = \begin{cases} 1 & \text{if } A_i + e_{pi} > T_p \\ 0 & \text{if } A_i + e_{pi} \leq T_p \end{cases} \quad U_{pi} = \begin{cases} 1 & \text{if } A_i - T_p > -e_{pi} \\ 0 & \text{if } A_i - T_p \leq -e_{pi} \end{cases}$$

The previous equation is deterministic because it assumes that the random deviation e_{pi} is known. If the random deviation is not known, then we replace the preceding equation by a regression equation.

$$\begin{aligned} E[U_{pi} | A_i, T_p] &= \text{Prob}(A_i - T_p > -e_{pi} | T_p, A_i) \\ &= \text{Prob}(e_{pi} > T_p - A_i | T_p, A_i) \\ &= 1 - \text{Prob}(e_{pi} \leq T_p - A_i | T_p, A_i) \\ &= 1 - \Phi(T_p - A_i) \end{aligned}$$

where Φ is the cumulative distribution function of the random deviation e_{pi} . If the random deviation is distributed normally with mean 0, then an algebraic identity yields the regression equation

$$E[U_{pi} | A_i, T_p] = \Phi(A_i - T_p)$$

Figure 1 about here

Figure 1 shows this regression curve graphed in two ways: with expected usage as a function of perceived affective impact for a given person and with expected usage as a function of ethical threshold for a given message. Figure 1a shows usage as a function of impact for a given person. The curve starts at 0 for highly negative messages and moves to 1 for highly positive messages. That is, the curve shows a probabilistic shift from rejection to acceptance of the message as the perceived affective impact of the message becomes more positive (or less negative). The midpoint of the shift (i.e., the point where expected usage is a probability of .50) depends on the persuader and is located at that point at which the message impact is exactly equal to the persuader's ethical threshold (i.e., the point at which $A_i = T_p$). Figure 1b shows expected usage as a function of ethical threshold for a given message. The curve decreases from 1 for persons with a very low threshold to 0 for persons with a very high threshold. That is, the proportion of persuaders who

would use a given strategy drops from "all" among the most unscrupulous persuaders to "none" among those with the most idealistic standards. The midpoint of the shift in probabilities (i.e., the point at which expected usage is a probability of .50) depends on the given message and is located at the point where persuaders have thresholds exactly equal to the message impact value (i.e., at the point where $T_p = A_i$).

The probabilistic model presented above is a variation of latent trait theory (Lord and Novick, 1968). The difference lies entirely in the orientation of the variables. In latent trait theory the underlying theoretical variable "ability" is assumed to be positively or directly related to the observed variable "performance" (i.e., correctness of response). In the compliance-gaining model, the observed variable of usage is negatively or inversely related to the theoretical variable which is the ethical threshold. Thus the analog of "item characteristic curves" in the compliance model are the decreasing ogives of Figure 1b rather than the traditional increasing ogives which look like those of Figure 1a. In order to make the statistical analysis easy for those who are familiar with latent trait theory, graphs will always be drawn with U, or total usage, as the independent variable, i.e., graphs will always be drawn with the ethical threshold variable reversed in orientation. In particular this means that the model predicts that usage of a given message will be an increasing ogival function of total usage score (with that message score subtracted).

The Dimensionality of Compliance-Gaining Messages

Our basic assumption concerning individual differences in the use of compliance-gaining messages is that persons with "idealistic standards" will be more likely to reject any given message than will "unscrupulous" persons. This same order should apply whether the message is negative, moderate, or positive. Thus the

model suggests that a correlational analysis of the use of various messages would yield a one factor solution; that factor being the persuader's perception of the persuadee's response to the message, or empathy. However, neither Marwell and Schmitt nor Miller et al. report a unidimensional solution. The data to be presented will show that the multidimensionality found in prior studies is an artifact of nonlinear relations between message use for any given message and the underlying empathy dimension. The regression of single messages onto empathy will be shown to be ogival. The presence of such nonlinearity is well known to produce "difficulty factors" in item correlations, since items with similar means correlate more highly with each other than with items of either higher mean or lower mean. Thus in this case either factor analysis or cluster analysis will tend to identify a dimension for the negative messages, a dimension for the positive messages and possibly one for moderate messages.

Item Characteristic Curves

In both Marwell and Schmitt study and in the Miller et al. study, there were 64 individual compliance-gaining messages presented. For each, the respondent's stated frequency of usage should be an indication of high or low empathy for that respondent. Thus the sum of reported frequencies across the 64 messages should be an excellent indicator of empathy. It would seem a straightforward matter to simply plot the regression of mean use of each message as a function of empathy score and check these plots for the predicted nonlinearity. These plots were constructed, but the results tended to be somewhat unclear because of sample size problems. The key location for nonlinearity in ogival curves tends to be at the endpoints, but the endpoints are also the location of the categories with the smallest number of respondents. To provide better estimation at the ends, the item characteristic curves were grouped and averaged.

Figures 2 and 3 about here

First the items were rank ordered by mean usage. They were then grouped by quartile, and the item characteristic curves in each quartile were averaged. These average item characteristic curves for the Marwell and Schmitt data are shown in Figure 2. The average item characteristic curves for the Miller et al. data are presented in Figure 3. Figures 2a and 3a show the averaged item characteristic curves for the most negative messages. Here there is a clear nonlinearity in that all persons with less than average scores (i.e., greater than average empathy) reject the messages completely. Thus the use or failure to use negative messages does not differentiate between those of high and moderate empathy (i.e., both get scores of 0). Figures 2d and 3d show the averaged item characteristic curves for the most positive messages. Here the nonlinearity is at the upper end of the distribution, i.e., at the low empathy end of the scale. All persons of lower than average empathy use these messages without hesitation, and hence all get maximal scores. Thus the use or failure to use positive messages does not differentiate between persons of moderate empathy and persons of low empathy. That is, negative messages distinguish only between persons of moderate and very low empathy while positive messages distinguish only between persons of moderate to high empathy.

Figures 4 and 5 about here

To see the nonlinearity implied by the ogival item characteristic curves, let us consider the construction of two empathy tests: one constructed only of the most negative messages, and the other constructed only of the most positive messages. What would the regression of positive test scores on negative test scores look like? The answer is shown in Figure 6, and can be obtained by combining the results shown in Figures 4 and 5 for positive and negative messages.

Figure 6 about here

Consider people at different levels of empathy. Those people with below average empathy will all get low scores on the negative message test, yet they will spread out over almost the full range of scores on the positive message test. Thus Figure 4 shows an extremely steep rise in the regression curve for people with low scores on the negative message test. On the other hand, those persons with less than average empathy will spread out over the whole range of the negative message test, but will all get maximal or near maximal scores on the positive message test. Thus the regression curve over most of the range of the positive message test is high and flat. On the other hand, two tests made up of negative messages would both differentiate between the same people and would lump the same people together. Thus the regression of two tests with all negative messages would be linear. Similarly, two tests made up of positive messages would be linearly related to each other. Thus the correlations between tests of similar empathic impact would be high, while tests of very disparate impact would be low.

Correlations between use scores on single messages follow a similar pattern to those generated above for tests in which all messages are pitched to the same degree of affect. However the correlations for single messages will all be lowered by the random response components which are averaged out in tests.

Simplex Patterns

If compliance-gaining messages are listed in order of the mean frequency of usage then the message items which are adjacent in the list should have larger correlations than items which are highly separated on the list, since items with similar mean usage will correlate more highly than items with dissimilar means. The corresponding fact about the correlation matrix is that correlations close to the main

diagonal should be high and should shade off to very low correlations in the far corners. A hypothetical correlation matrix of this sort is shown in Table 2.

Table 2 about here

The correlation matrix shown in Table 2 is called a Guttman Simplex (Guttman, 1955). The correlations not only decrease as they leave the diagonal, but they satisfy a strict product rule (i.e., the exact magnitude of the non-adjacent correlations can be predicted from the correlations just off the main diagonal). For dichotomous items in latent trait theory, this would only happen if the items were perfectly reliable, i.e., if the ogives were step functions. The product rule is even less appropriate in the present case in which the responses are on six and eight point scales. However, Guttman's derivation of the pattern of principal components of a simplex depends only slightly on the exact product rule; the general pattern of his results actually depends entirely on the coarse structure of the data, i.e., on the pattern of correlations decreasing from the main diagonal. Guttman (1955) found that the first principal component would either be flat (for large correlation matrices) or would be peaked at the middle item. The second principal component would have large positive loadings for items at one end of the list and large negative loadings for items at the other end of the list. The third and fourth and succeeding principal components are similarly predictable, though the patterns are successively more complicated.

The crucial point is that all factors past the first are actually artifactual, produced by the nonlinearity of the relation between each item and the underlying trait. After VA MAX rotation, these principal components become the "difficulty factors," i.e., a factor for the easy items, a factor for the medium items, a factor

for the hard times. These specious difficulty factors could explain how Marwell and Schmitt and Miller et al, could get multiple factor solutions to correlation matrices which actually stem from a single empathy dimension.

Tables 3 and 4 about here

Tables 3 and 4 show the strategy correlation matrices for the Marwell and Schmitt data and for the Miller et al. data respectively. In both cases there is a pronounced simplex pattern of decreasing correlations toward the top right and the lower left corners of the correlation matrix. Most of the correlations which deviate from the predicted pattern deviate by only minor amounts which are well within the limits predicted by sampling error.

However, there are a few correlations which are truly deviant and which warrant further comment. The crucial fact to consider is that the strategy scores correlated by Marwell and Schmitt or by Miller et al, were not scores for single messages but rather the sums of four scores over the four messages which represented each strategy (i.e., four scores for each message category). If several messages do not have the same mean value, then the sum over their responses will not have the usual ogival regression curve onto empathy. If the variation in means were sufficiently large, the resulting summed scores could yield a test which is linear or empathy. Data presented in a subsequent paper will show that this is somewhat true of all of the strategies, but especially true of some. In particular, the various threats used by Miller et al. vary enormously in their empathic impact. The correlations for threat are correspondingly deviant.

Similar comments apply to the cluster interpretations given to the multiple factor solution by Miller et al. They noted that message clusters did not follow strategy designations, but frequently went either with situation or just haphazardly.

They claimed that this was evidence for the existence of strong situational determinants in compliance-gaining behavior. Actually this analysis shows that messages very considerable in mean within strategies and therefore we would expect the apparent clusters to bear only a very rough correspondence to strategy designations. Instead, the single messages group by mean response as predicted by the empathy model.

Factor Analysis

There is a more structured way to check for simplex patterns within a formal factor analysis. The first two principal components (or principal axis factors) can be used to make a graph which should have a very special form. For each item, a point (x,y) is plotted, where x is the loading of that item on the first principal component and y is the loading of that item on the second principal component. If the correlation matrix follows a simplex pattern, then the item points should fall roughly on the arc of a semicircle (variations in distance of these points from the origin can either be sampling error or differences in item reliability). The rank order along that arc should be the rank order of the item means. Tables 5 and 6 present factor loadings, obtained from a VARIMAX rotation of principal axis factors calculated using communalities, for the Marwell and Schmitt data and the Miller et al. data. In Figures 7 and 8

Tables 5 and 6 about here

plots of these factor loadings for the Marwell and Schmitt data and for the Miller et al. data are shown. With the exception of "threat" in the Miller et al. data.

Figures 7 and 8 about here

there are no deviations which are greater than would be expected from sampling error.

Summary and Conclusions

The results of this reanalysis of both the Marwell and Schmitt data and the Miller et al. data shows the multidimensional factor solutions obtained in these studies to be deceptive. The multidimensionality of these solutions has been shown to be a result of the nonlinear regression of use onto messages. A more appropriate model of the data obtained from the compliance-gaining message strategy experiment then, is a unidimensional one in which the one dimension is perceived response of the persuadee to the message(s), or empathy.

Given this model it is clear that the theoretical claim made by Marwell and Schmitt that their factor structure suggests that persons separate compliance-gaining messages according to the type of interpersonal power that is most relevant is unwarranted. Further, the claim made by Miller et al. that their factor structure supports their hypothesis of situational differences in the use of compliance-gaining messages is also unwarranted.

On a more positive note, this paper has established that Marwell and Schmitt's 16 categories do form a scale which measures empathy. Further, this scale satisfies some very strict assumptions, i.e., it is a Guttman scale.

Additionally, the empathy model has delineated the process by which persuaders select compliance-gaining messages, i.e., they compare the strength of the message with their ethical threshold; if the message is more positive than their ethical threshold, then they select the message; if the message is more negative than (or equal to) their ethical threshold then they reject the message.

In the development of this model, an important assumption was made. It was assumed that persons prefer to use messages which are perceived to evoke a positive

response in persuadees to messages which are perceived to evoke a negative response in persuadees. This assumption was supported by both the Marwell and Schmitt data and the Miller et al. data.

Several avenues of future research would be fruitful in probing further into certain aspects of the compliance-gaining message experiment. Three may be identified here. First, although the model assumes that persons prefer positive strategies because of certain ethical concerns, there are a number of alternative hypotheses that could account for this phenomenon. For example, persons may simply feel or perceive, that positive strategies are more effective in gaining compliance from another. These hypotheses need to be tested against the empathy model.

Second, assuming that the empathy model is an accurate description of persons' compliance-gaining message selection, the question of correlates of T_p becomes salient. That is, what are those variables which allow one to predict what another's ethical threshold will be in a given situation.

Finally, both the Marwell and Schmitt and Miller et al, data sets were questionnaire data. Clearly, this experiment must be moved into some setting where the actual compliance-gaining behavior of persons can be observed. While it would be flogging an already dead horse to launch into a diatribe concerning the relative merits of "questionnaire" data versus "behavioral" data, a question of the generalizability, or the external validity, of these findings demands yet to be answered.

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Table 1. The Definition of Sixteen Compliance-Gaining Strategies (Marwell and Schmitt, 1967, 357-358.)

1. Promise	If you comply, I will reward you.
2. Threat	If you do not comply, I will punish you.
3. Positive Expertise	If you comply, you will be rewarded because of "the nature of things".
4. Negative Expertise	If you do not comply, you will be punished because of "the nature of things".
5. Liking	Actor is friendly and helpful to get target in "good frame of mind" so that he will comply with request.
6. Pre-Giving	Actor reward target before requesting compliance.
7. Aversive Stimulation	Actor continuously punishes target making cessation contingent on compliance.
8. Debt	You owe me compliance because of past favors.
9. More Appeal	You are immoral if you do not comply.
10. Positive Self-Feeling	You will feel better about yourself if you comply.
11. Negative Self-Feeling	You will feel worse about yourself if you do not comply.
12. Positive Altercasting	A person with "good" qualities would comply.
13. Negative Altercasting	Only a person with "bad" qualities would not comply.
14. Altruism	I need your compliance very badly, so do it for me.
15. Positive Esteem	People you value will think better of you if you comply.
16. Negative Esteem	People you value will think worse of you if you do not comply.

Table 2. A Hypothetical Correlation Matrix Representing a Guttman Simplex of the Struct Kind.

	Variable 1	Variable 2	Variable 3	Variable 4	Variable 5
Variable 1	1.00	.70	.49	.35	.25
Variable 2	.70	1.00	.70	.49	.35
Variable 3	.49	.70	1.00	.70	.49
Variable 4	.35	.49	.70	1.00	.70
Variable 5	.25	.35	.49	.70	1.00

Table 3. The Correlations Between Compliance-Gaining Message Strategies Obtained in the Marwell and Schmitt Study.

Strategies	+Exp	Lik	-Exp	+Alt	+SF	+Est	PG	Prom	Altr	MA	-SF	Debt	-Est	-Alt	AS	Thr
Positive Expertise	1.00	.37	.52	.43	.42	.44	.41	.25	.26	.31	.33	.25	.29	.24	.23	.19
Liking	.37	1.00	.30	.35	.34	.32	.56	.35	.29	.17	.25	.15	.20	.18	.22	.14
Negative Expertise	.52	.30	1.00	.35	.35	.39	.30	.33	.39	.35	.38	.33	.39	.34	.35	.31
Positive Altercasting	.43	.35	.35	1.00	.58	.47	.30	.26	.25	.35	.44	.23	.35	.38	.22	.19
Positive Self-Feeling	.42	.34	.35	.58	1.00	.65	.37	.32	.33	.43	.61	.31	.50	.48	.32	.25
Positive Esteem	.44	.32	.39	.47	.65	1.00	.36	.31	.26	.39	.33	.31	.29	.24	.28	.29
Pre-Giving	.31	.56	.30	.30	.37	.36	1.00	.52	.31	.18	.27	.20	.27	.26	.26	.20
Promise	.25	.35	.33	.26	.32	.31	.52	1.00	.32	.20	.28	.24	.30	.27	.33	.32
Altruism	.26	.29	.39	.25	.33	.26	.32	.32	1.00	.34	.36	.44	.49	.39	.33	.35
Moral Appeal	.31	.17	.35	.35	.43	.39	.20	.20	.34	1.00	.54	.36	.50	.49	.33	.36
Negative Self-Feeling	.33	.25	.38	.44	.61	.33	.28	.28	.36	.54	1.00	.42	.65	.57	.40	.38
Debt	.25	.15	.33	.23	.31	.31	.24	.24	.44	.36	.42	1.00	.53	.44	.41	.48
Negative Esteem	.29	.20	.39	.35	.50	.29	.30	.30	.49	.50	.65	.53	1.00	.56	.44	.46
Negative Altercasting	.24	.18	.34	.38	.48	.24	.27	.27	.39	.49	.57	.44	.56	1.00	.36	.45
Aversive Stimulation	.23	.22	.35	.22	.32	.28	.33	.33	.33	.33	.40	.41	.44	.36	1.00	.60
Threat	.19	.14	.31	.19	.25	.29	.32	.32	.35	.36	.38	.38	.46	.45	.60	1.00

Table 4. The Correlations Between Compliance-Gaining Message Strategies Obtained in the Miller et al study.

Strategies	Lik	+Alt	Altr	+Exp	Prom	-Exp	Thr	+SF	Debt	PG	-Alt	+Est	-SF	MA	AS	-Est
Liking	1.00	.35	.43	.52	.33	.42	.03	.53	.44	.15	.29	.46	.28	.22	.02	.30
Positive Altercasting	.35	1.00	.47	.45	.25	.32	.13	.59	.57	.19	.51	.40	.48	.47	.13	.32
Altruism	.43	.47	1.00	.40	.43	.36	.17	.50	.49	.22	.23	.36	.40	.36	.12	.31
Positive Expertise	.52	.45	.40	1.00	.41	.42	.14	.58	.54	.10	.39	.42	.44	.38	.07	.28
Promise	.33	.25	.43	.41	1.00	.34	.10	.39	.37	.28	.15	.30	.26	.19	.02	.24
Negative Expertise	.42	.32	.36	.42	.34	1.00	.25	.50	.50	.12	.33	.42	.42	.20	.16	.39
Threat	.03	.13	.17	.14	.10	.25	1.00	.12	.31	.01	.38	.23	.38	.30	.65	.39
Positive Self-Feeling	.53	.59	.50	.58	.39	.50	.12	1.00	.58	.15	.42	.61	.58	.43	.22	.49
Debt	.44	.57	.49	.54	.37	.50	.31	.58	1.00	.24	.51	.49	.55	.54	.26	.50
Pre-Giving	.15	.19	.22	.10	.28	.12	.01	.15	.24	1.00	.16	.29	.16	.30	.09	.24
Negative Altercasting	.29	.51	.23	.39	.15	.33	.38	.42	.51	.16	1.00	.46	.66	.59	.37	.52
Positive Esteem	.46	.40	.36	.42	.30	.42	.23	.61	.49	.29	.46	1.00	.53	.44	.31	.73
Negative Self-Feeling	.28	.48	.40	.44	.26	.42	.38	.58	.55	.16	.66	.53	1.00	.61	.36	.57
Moral Appeal	.22	.47	.36	.38	.19	.20	.30	.43	.54	.30	.59	.44	.61	1.00	.33	.50
Aversive Stimulation	.02	.13	.12	.07	.02	.16	.65	.22	.26	.09	.37	.31	.36	.33	1.00	.36
Negative Esteem	.30	.32	.31	.28	.24	.39	.39	.49	.50	.24	.52	.73	.57	.50	.36	1.00

Table 5. A Factor Analysis of 16 Compliance-Gaining Message Strategies for the Marwell and Schmitt Data.

<u>Strategies</u>	<u>Factor I</u>	<u>Factor II</u>
Negative Esteem	.75*	.24
Negative Altercasting	.67*	.22
Threat	.67*	.13
Negative Self-feeling	.66*	.34
Debt	.64*	.16
Aversive Stimulation	.60*	.22
Moral Appeal	.58*	.27
Altruism	.51*	.30
Liking	.05	.66*
Positive Esteem	.25	.65*
Positive Self-Feeling	.42	.62*
Positive Expertise	.20	.60*
Positive Altercasting	.27	.60*
Pre-Giving	.18	.59*
Promise	.26	.48*
Negative Expertise	.38	.48*

r_{12} (the correlation between those items which have their highest loading on Factor I and those items which have their highest loading on Factor II)=.71

Coefficient alpha for those items which have their highest loading on Factor I=.86

Coefficient alpha for those items which have their highest loading on Factor II=.83

*denotes the factor upon which a strategy has its highest loading.

Table 6. A Factor Analysis of 16 Compliance-Gaining Message Strategies for the Miller et al. Data.

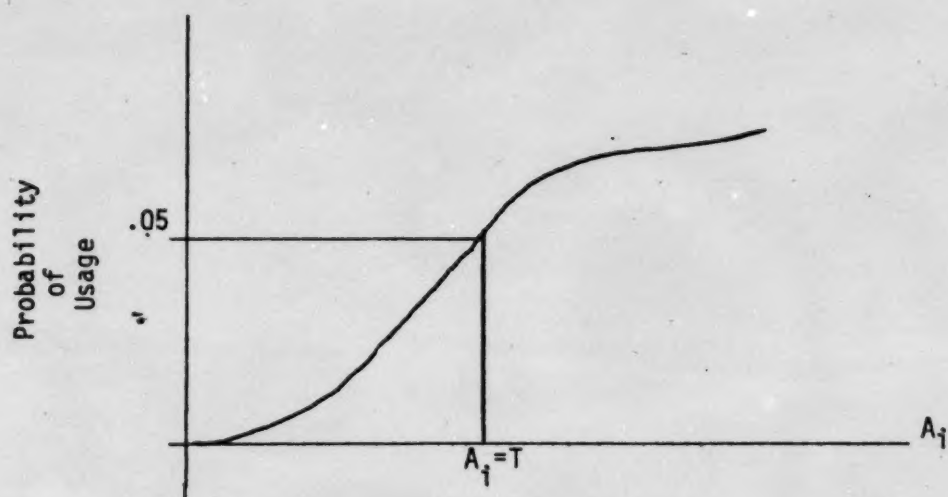
<u>Strategies</u>	<u>Factor I</u>	<u>Factor II</u>
Positive Self-Feeling	.76*	.25
Positive Expertise	.70*	.12
Liking	.68*	.00
Debt	.67*	.39
Positive Altercasting	.63*	.25
Altruism	.63*	.13
Positive Esteem	.60*	.44
Negative Expertise	.56*	.22
Promise	.55*	.01
Pre-Giving	.28*	.12
Aversive Stimulation	-.04	.75*
Threat	-.01	.73*
Negative Altercasting	.41	.62*
Negative Esteem	.44	.61*
Negative Self-Feeling	.52	.59*
Moral Appeal	.43	.55*

r_{12} (the correlation between those items which have their highest loading on Factor I and those items which have their highest loading on Factor II) = .69

Coefficient alpha for those items which have their highest loading on Factor I = .87

Coefficient alpha for those items which have their highest loading on Factor II = .84

*denotes the factor upon which a strategy has its highest loading.



Perceived Affective Impact

Figure 1a, The Expected Usage of a Compliance-Gaining Message as a Function of the Perceived Affective Impact of the Message on the Listener.

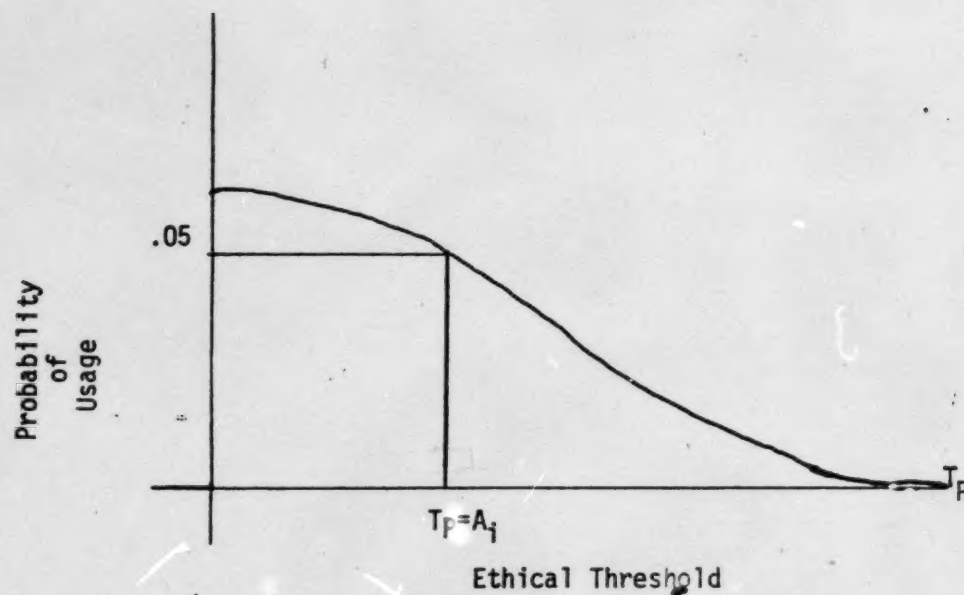


Figure 1b. The Expected Usage of a Compliance-Gaining Message as a Function of the Ethical Threshold of the Persuader.

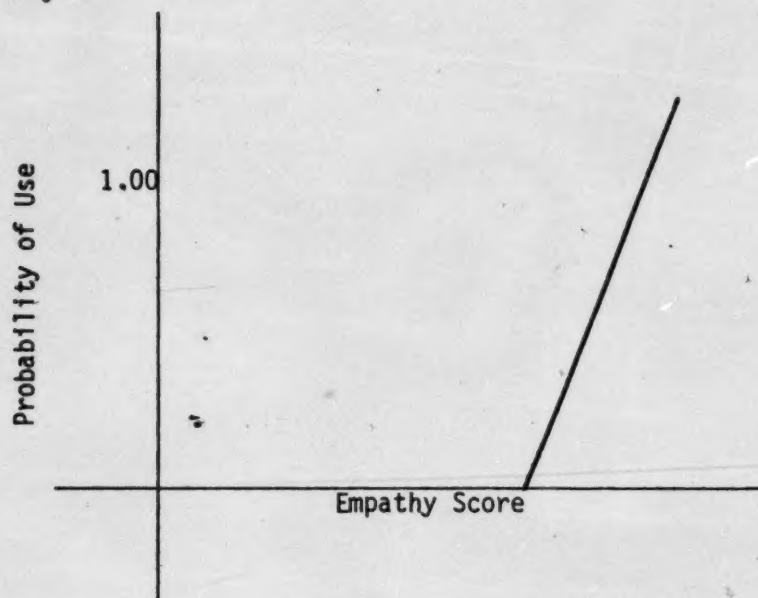


Figure 2a. An Item Characteristic Curve of the Relationship Between Empathy Score and the Probability of Compliance-Gaining Message Usage for the Most Negative Quartile of Messages in the Marwell and Schmitt Study.

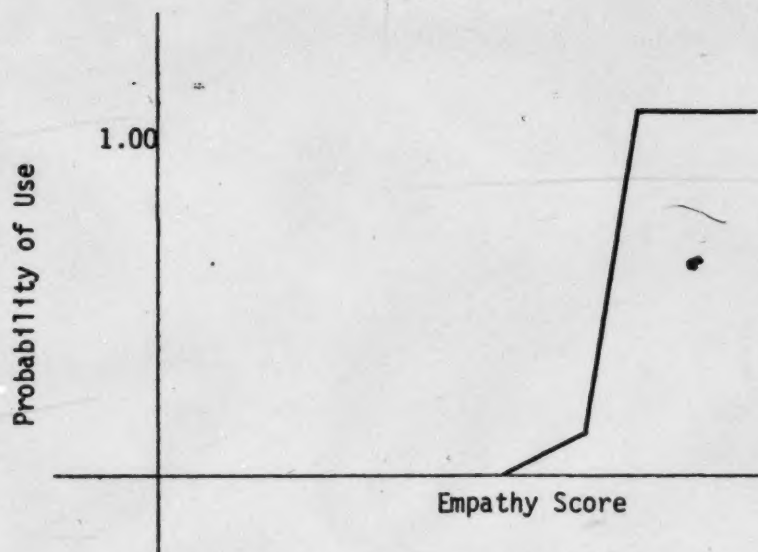


Figure 2b. An Item Characteristic Curve of the Relationship Between Empathy Score and the Probability of Compliance-Gaining Message Usage for the Second Quartile of Messages in the Marwell and Schmitt Study.

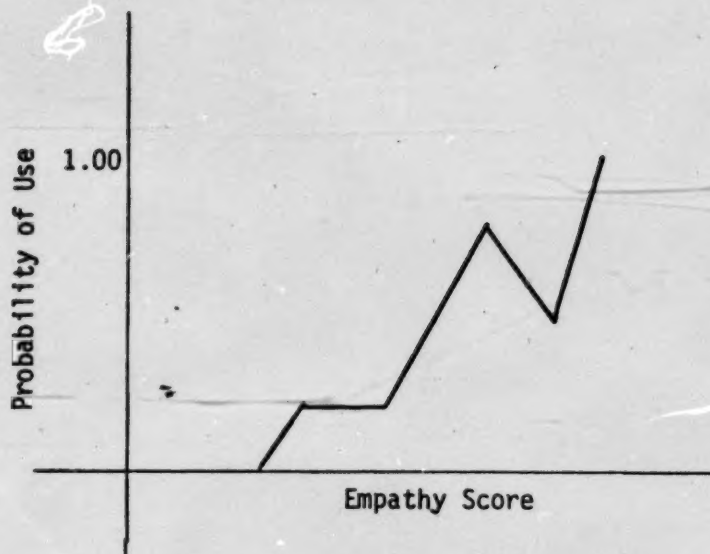


Figure 2c. An Item Characteristic Curve of the Relationship Between Empathy Score and the Probability of Compliance-Gaining Message Usage for the Third Quartile of Messages in the Marwell and Schmitt Study.

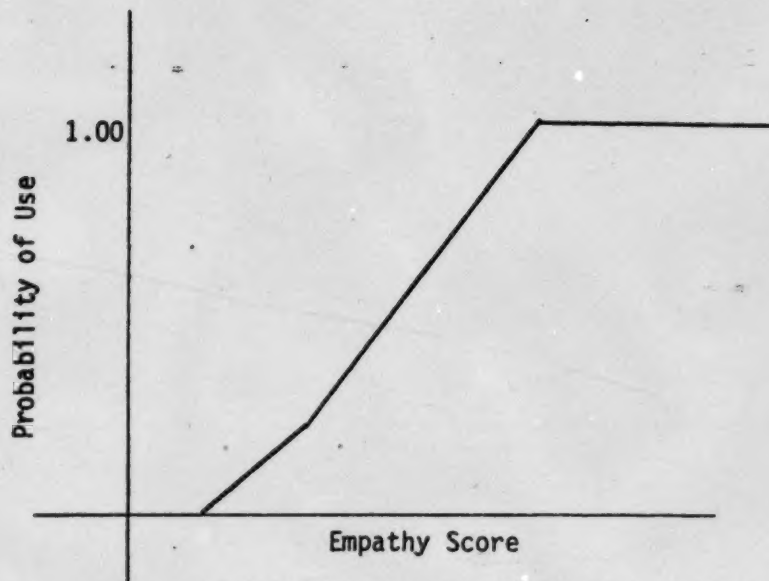


Figure 2d. An Item Characteristic Curve of the Relationship Between Empathy Score and the Probability of Compliance-Gaining Message Usage for the Most Positive Quartile of Messages in the Marwell and Schmitt Study.

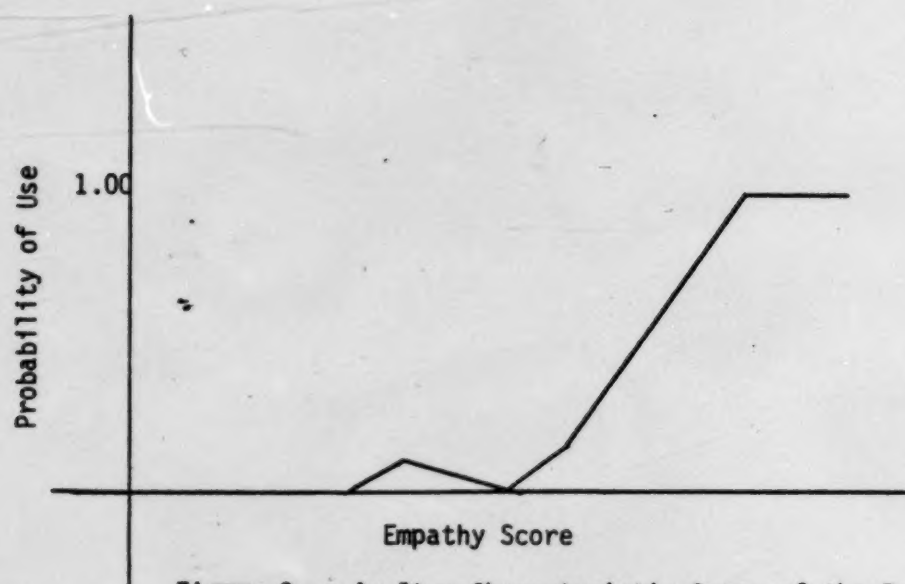


Figure 3a. An Item Characteristic Curve of the Relationship Between Empathy Score and the Probability of Compliance-Gaining Message Usage for the Most Negative Quartile of Messages in the Miller et al. Study.

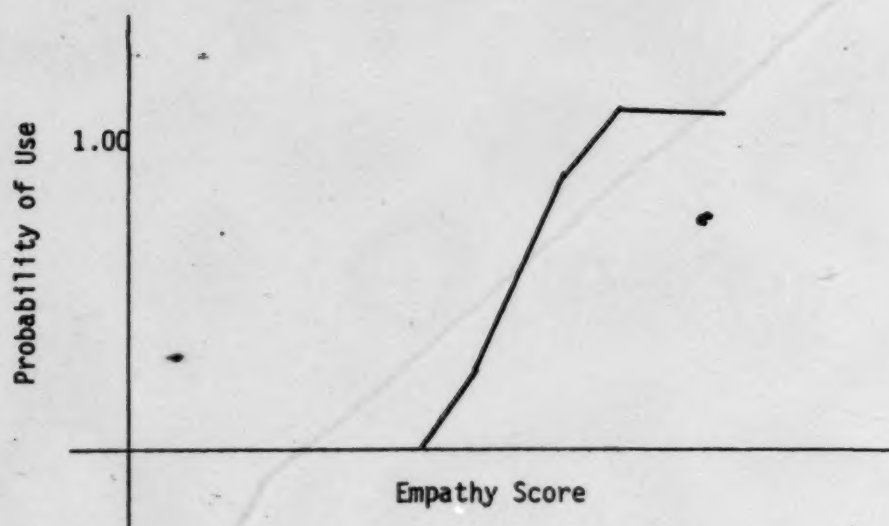


Figure 3b. An Item Characteristic Curve of the Relationship Between Empathy Score and the Probability of Compliance-Gaining Message Usage for the Second Quartile of Messages in the Miller et al. Study.

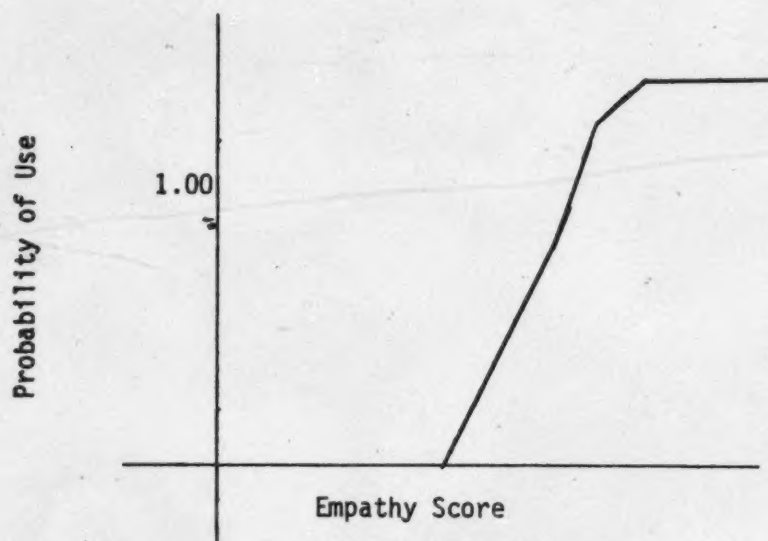


Figure 3c. An Item Characteristic Curve of the Relationship Between Empathy Score and the Probability of Compliance-Gaining Message Usage for the Third Quartile of Messages in the Miller et al. Study.

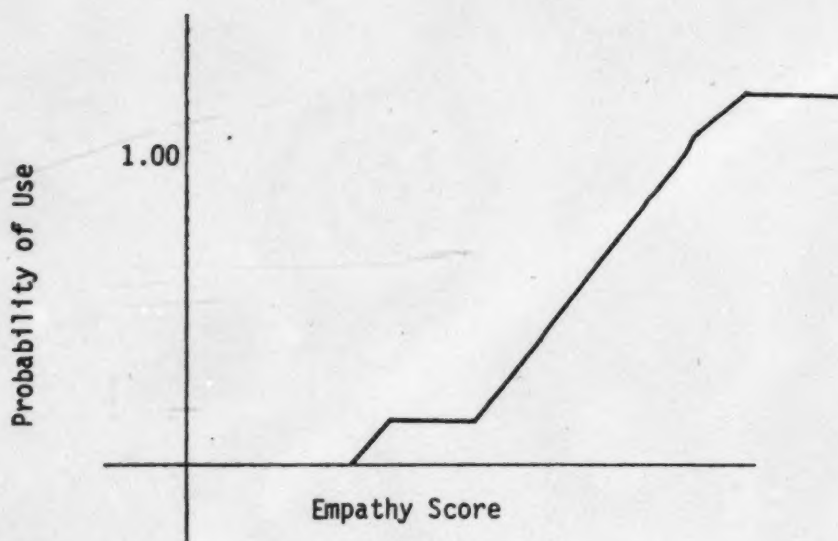


Figure 3d. An Item Characteristic Curve of the Relationship Between Empathy Score and the Probability of Compliance-Gaining Message Usage for the Most Positive Quartile of Messages in the Miller et al. Study.

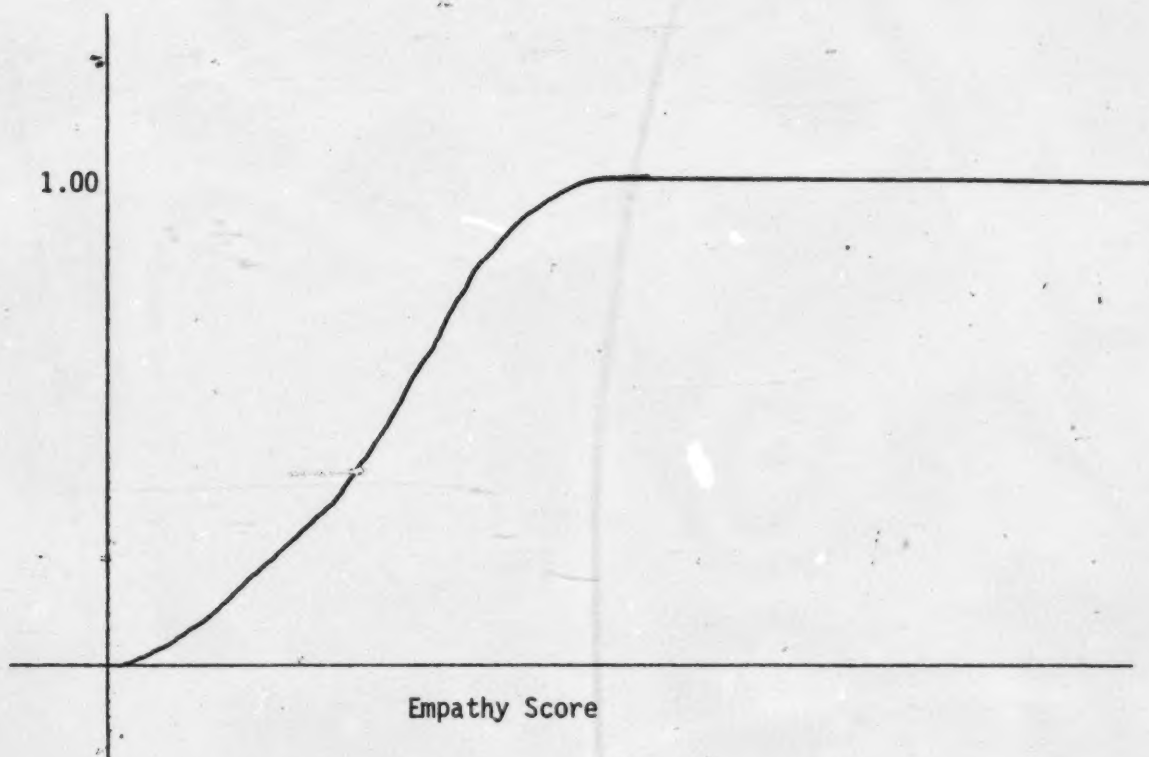


Figure 4. An Item Characteristic Curve of the Regression of the Probability of Compliance-Gaining Message Usage on Empathy Score for a Hypothetical Positive Message.

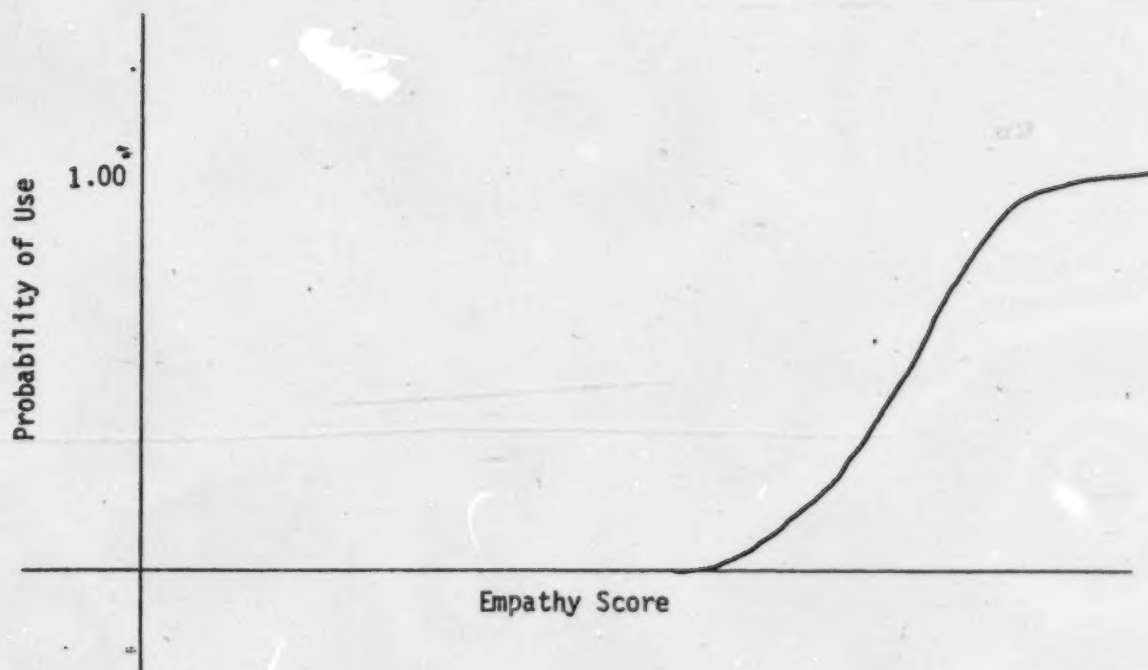


Figure 5. An Item Characteristic Curve of the Regression of the Probability of Compliance-Gaining Message Usage on Empathy Score for a Hypothetical Negative Message.

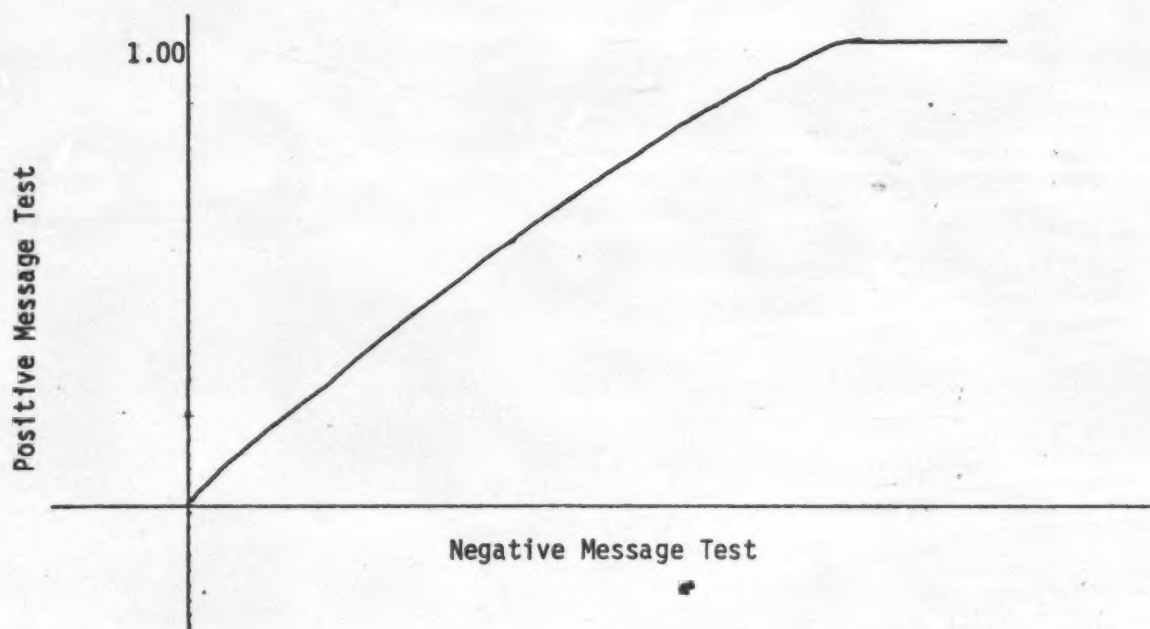


Figure 6. The Nonlinear Relationship Between Items of Different Empathic Impact Implied by the Nonlinear Relationship Between Message Usage and Empathy.

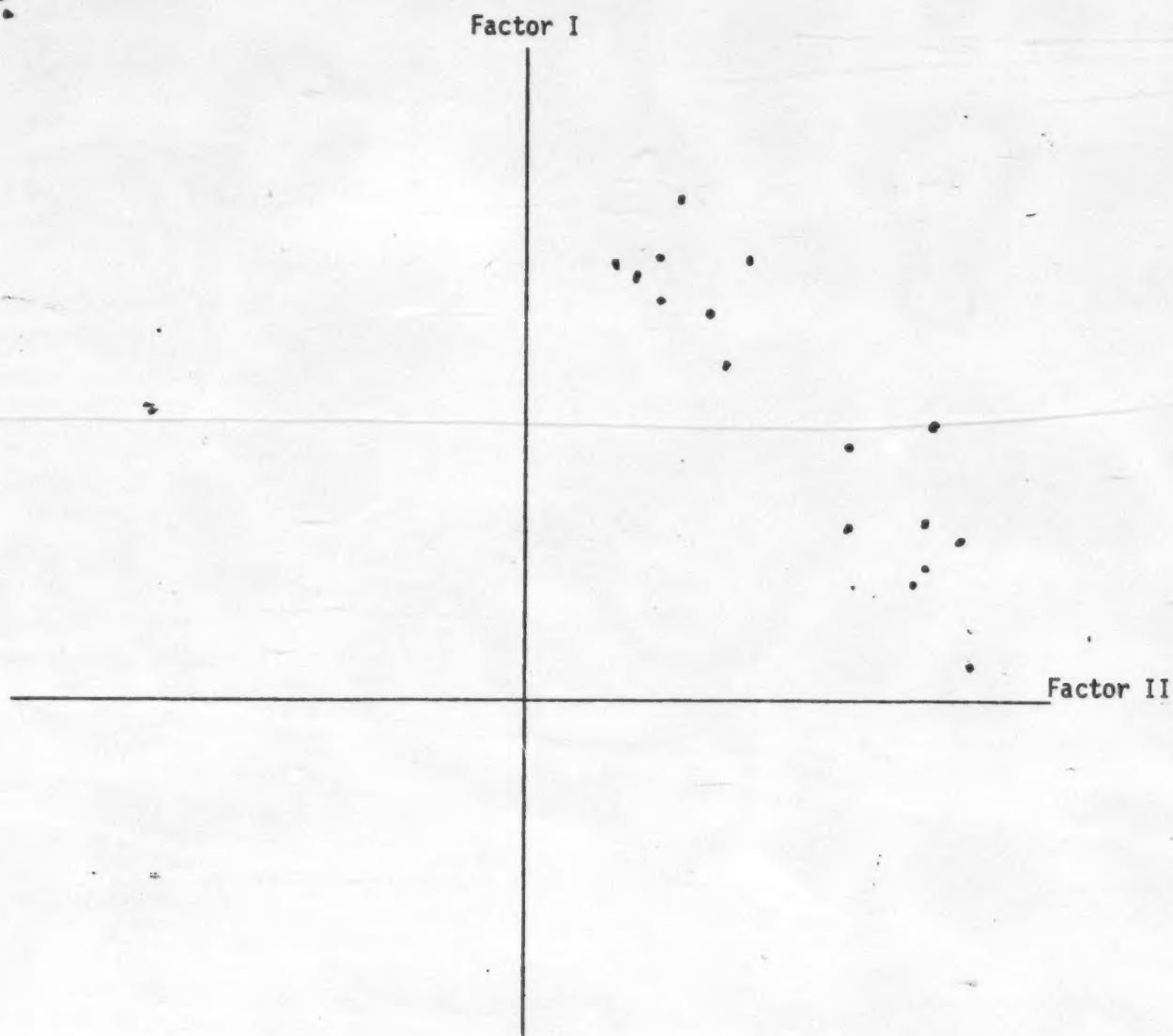


Figure 7. A Graph of Compliance-Gaining Message Strategies Scatterplotted as a Function of Their Factor Loadings on Two Factors for the Marwell and Schmitt Data.

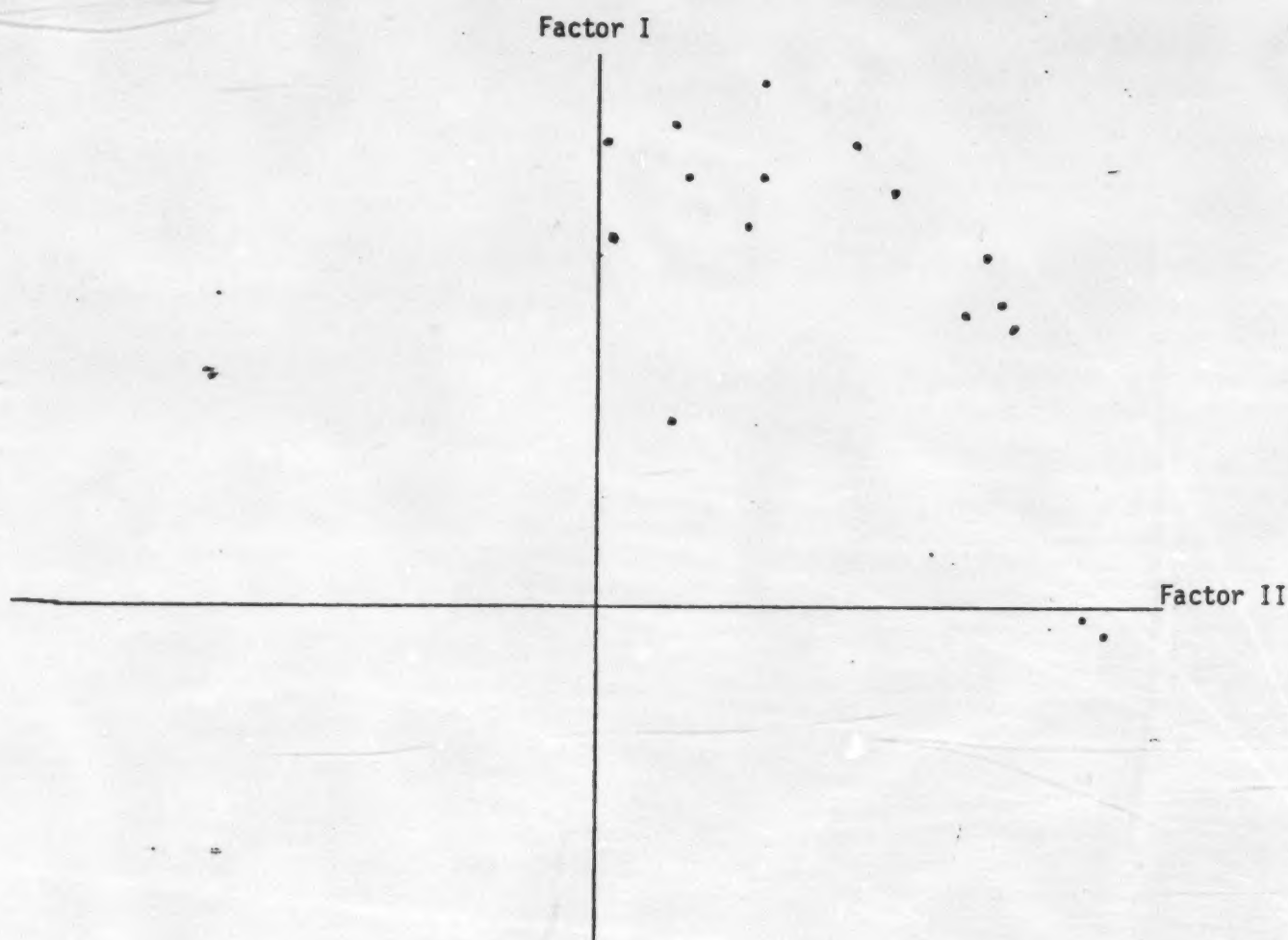


Figure 8. A Graph of Compliance-Gaining Message Strategies Scatterplotted as a Function of Their Factor Loadings on Two Factors for the Miller et al. Data.